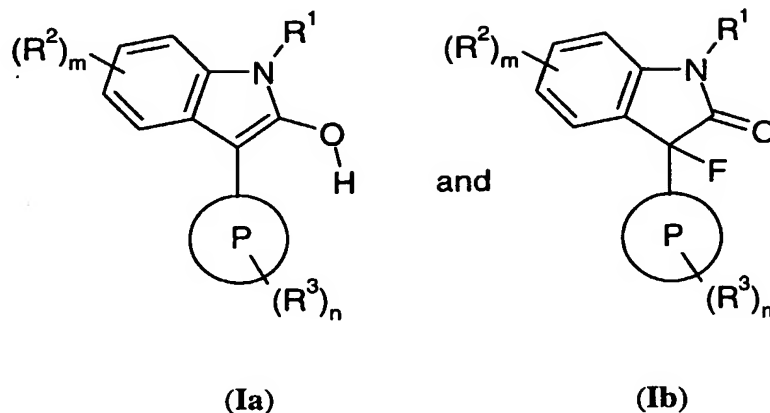


CLAIMS

1. A compound of formula **Ia** and **Ib**:



wherein:

P represents a 5- or 6-membered heteroaromatic ring containing one or two heteroatoms selected independently from N, O and S of which at least one atom is nitrogen;

10 R^1 is hydrogen;

R^2 and R^3 are independently selected from halogen, nitro, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{0-6} alkyl C_{3-6} cycloalkyl, C_{0-6} alkylaryl, C_{0-6} alkylheteroaryl, CHO, C_{0-6} alkylOR⁴, OC₁₋₆alkylOR⁴, C_{0-6} alkylSR⁴, OC₁₋₆alkylSR⁴, (CO)R⁴, (CO)OR⁴, O(CO)R⁴, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy, trifluoromethoxy, OC₁₋₆alkylcyano, C_{0-6} alkylcyano, C_{1-6} alkylCO₂R⁴, OC₁₋₆alkylCO₂R⁴, O(CO)OR⁴, OC₁₋₆alkylCOR⁴, C_{1-6} alkylCOR⁴, NR⁴OR⁵, C_{0-6} alkylNR⁴R⁵, OC₁₋₆alkylNR⁴R⁵, C_{0-6} alkylCONR⁴R⁵, OC₁₋₆alkylCONR⁴R⁵, OC₁₋₆alkylNR⁴(CO)R⁵, C_{0-6} alkylNR⁴(CO)R⁵, C_{0-6} alkylNR⁴(CO)NR⁴R⁵, O(CO)NR⁴R⁵, NR⁴(CO)OR⁵, C_{0-6} alkyl(SO₂)NR⁴R⁵, OC₁₋₆alkyl(SO₂)NR⁴R⁵, C_{0-6} alkylNR⁴(SO₂)R⁵, C_{0-6} alkyl(SO)NR⁴R⁵, OC₁₋₆alkyl(SO)NR⁴R⁵, SO₃R⁴, C_{0-6} alkylNR⁴(SO₂)NR⁴R⁵, C_{0-6} alkylNR⁴(SO)R⁵, OC₀₋₆alkylNR⁴(SO)R⁵, OC₀₋₆alkylSO₂R⁴, C_{0-6} alkylSO₂R⁴, C_{0-6} alkylSOR⁴, OC₁₋₆alkylSOR⁴ and a group X¹R⁶, wherein X¹ is a direct bond, O, CONR⁷R⁸, SO₂NR⁹R¹⁰, SO₂R¹¹ or NR¹²R¹³; and wherein R⁶ is linked to R⁸, R¹⁰, R¹¹ and R¹³;

R^7 , R^9 and R^{12} each independently are hydrogen or C_{1-6} alkyl;

R^8 , R^{10} , R^{11} and R^{13} are C_{1-6} alkyl;

5 R^6 is phenyl or a 5-, 6- or 7-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, which heterocyclic group may be saturated or unsaturated or said phenyl or 5-, 6- or 7-membered heterocyclic group may optionally be fused with a 5- or 6-membered saturated or unsaturated ring containing atoms
10 selected independently from C, N, O and S and which phenyl or heterocyclic group may be substituted with one or two substituents selected from W;

m is 0, 1, 2, 3 or 4;

15 n is 0, 1, 2, 3 or 4;

R^4 is selected from hydrogen, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{0-6} alkyl C_{3-6} cycloalkyl, C_{0-6} alkylaryl, C_{0-6} alkylheteroaryl, C_{1-6} alkylNR¹⁴R¹⁵ and a 5- or 6-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S,
20 wherein said heterocyclic group may optionally be substituted by a group Y;

R^5 is selected from hydrogen, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{0-6} alkyl C_{3-6} cycloalkyl, C_{0-6} alkylaryl, C_{0-6} alkylheteroaryl and C_{1-6} alkylNR¹⁴R¹⁵ and; wherein R^4 and R^5 may together form a 4-, 5-, 6- or 7-membered heterocyclic group containing one or more
25 heteroatoms selected independently from N, O and S, wherein said heterocyclic group may optionally be substituted by a group Y; and wherein any C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{0-6} alkyl C_{3-6} cycloalkyl, C_{0-6} alkylaryl and; C_{0-6} alkylheteroaryl defined under R^2 to R^5 may be substituted by one or more group Z;

30 R^{14} and R^{15} are independently selected from hydrogen, C_{1-6} alkyl and C_{0-6} alkyl C_{3-6} cycloalkyl and wherein R^{14} and R^{15} may together form a 5- or 6-membered heterocyclic

group containing one or more heteroatoms, selected independently from N, O and S, wherein said heterocyclic group may optionally be substituted by a group Y;

W and Z are independently selected from oxo, halogen, nitro, CN, OR¹⁶, C₁₋₆alkyl, C₀₋₆alkylaryl, C₀₋₆alkylC₃₋₆cycloalkyl, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy, trifluoromethoxy, OC₁₋₆alkylNR¹⁶R¹⁷, NR¹⁶R¹⁷, CONR¹⁶R¹⁷, NR¹⁶(CO)R¹⁷, O(CO)C₁₋₆alkyl, (CO)OC₁₋₆alkyl, COR¹⁶, (SO₂)NR¹⁶R¹⁷, SO₂R¹⁶, SOR¹⁶, (CO)C₁₋₆alkylNR¹⁶R¹⁷, (SO₂)C₁₋₆alkylNR¹⁶R¹⁷, a 5- or 6-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, phenyl and heteroaryl, which heterocyclic group, phenyl or heteroaryl may optionally be substituted by a group Y;

Y is selected from oxo, halogen, nitro, CN, OR¹⁶, C₁₋₆alkyl, C₀₋₆alkylaryl, C₀₋₆alkylC₃₋₆cycloalkyl, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy, trifluoromethoxy, OC₁₋₆alkylNR¹⁶R¹⁷, NR¹⁶R¹⁷, CONR¹⁶R¹⁷, NR¹⁶(CO)R¹⁷, O(CO)C₁₋₆alkyl, (CO)OC₁₋₆alkyl, COR¹⁶, (SO₂)NR¹⁶R¹⁷, SO₂R¹⁶, SOR¹⁶, (CO)C₁₋₆alkylNR¹⁶R¹⁷, (SO₂)C₁₋₆alkylNR¹⁶R¹⁷, phenyl, C₀₋₆alkylaryl and heteroaryl wherein the phenyl, C₀₋₆alkylaryl and heteroaryl group may be optionally substituted with halogen, nitro, CN, OR¹⁶, C₁₋₆alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy and trifluoromethoxy;

R¹⁶ and R¹⁷ are independently selected from hydrogen and C₁₋₆alkyl and wherein R¹⁶ and R¹⁷ may together form a 5- or 6-membered heterocyclic group containing one or more heteroatoms, selected independently from N, O and S; as a free base or a pharmaceutically acceptable salt thereof.

2. The compound according to claim 1, wherein P is a 6-membered heteroaromatic ring containing one or two nitrogen atoms.

3. The compound according to claim 1, wherein P is pyridine.

4. The compound according to claim 1, wherein ring P is pyrimidine.

5. The compound according to any one of claims 1 to 4, said compound being a compound of Formula Ia.

6. The compound according to any one of claims 1 to 5, wherein R^2 and R^3 are

independently selected from: halogen, nitro, C_{0-6} alkylheteroaryl, trifluoromethyl, C_{0-6} alkylcyano, C_{0-6} alkylNR⁴R⁵, C_{0-6} alkylCONR⁴R⁵, OC₁₋₆alkylNR⁴R⁵, C_{0-6} alkyl(SO₂)NR⁴R⁵, and a group X¹R⁶, wherein X¹ is a direct bond; R⁶ is a 5-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, and which heterocyclic group may be substituted with one or two substituents W, preferably C₁₋₆alkyl; m is 0, 1, 2; and n is 1 or 2.

7. The compound according to any one of claims 1 to 6, wherein:

R⁴ is independently selected from hydrogen, C₁₋₆alkyl, C_{0-6} alkylC₃₋₆cycloalkyl, C_{0-6} alkylaryl, C_{0-6} alkylheteroaryl, C₁₋₆alkylNR¹⁴R¹⁵ and a 5- or 6-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, wherein said heterocyclic group may optionally be substituted by a group Y;

R⁵ is selected from hydrogen, C₁₋₆alkyl; wherein R⁴ and R⁵ may together form a 4-, 5-, 6- or 7-membered heterocyclic group containing one or more heteroatoms selected independently from N, O and S, wherein said heterocyclic group may optionally be substituted by a group Y; and wherein any C₁₋₆alkyl, C_{0-6} alkylaryl defined under R² to R⁵ may be substituted by one or more group Z;

R¹⁴ and R¹⁵ are independently C₁₋₆alkyl and wherein R¹⁴ and R¹⁵ may together form a 5- or 6-membered heterocyclic group containing one or more heteroatoms, selected independently from N, O and S;

Z is independently selected from, halogen, C₁₋₆alkyl, CN, NR¹⁶R¹⁷.

Y is selected from C₁₋₆alkyl, C_{0-6} alkylaryl, NR¹⁶R¹⁷, phenyl, wherein the phenyl may be optionally substituted with nitro and trifluoromethyl;

R^{16} and R^{17} are C_{1-6} alkyl and wherein R^{16} and R^{17} may together form a 5- or 6-membered heterocyclic group containing one or more heteroatoms, selected independently from N, O and S.

- 5 8. The compound according to any one of claims 1 to 3 and claims 5 to 7, wherein P is pyridine; R^2 is CN; R^3 is C_{0-6} alkylNR⁴R⁵; wherein R^4 and R^5 may together form a 4-, 5-, 6- or 7-membered heterocyclic group containing one or more heteroatoms selected independently from N, O and S.
- 10 9. A compound which is
 2-(5-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-[2-(dimethylamino)ethyl]isonicotinamide;
 2-Hydroxy-3-{4-[(4-methylpiperazin-1-yl)carbonyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile
 hydrochloride;
 2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)carbonyl]pyridin-2-yl}-1*H*-indole-5-
 15 carbonitrile;
 2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carbonitrile
 hydrochloride;
 2-Hydroxy-3-[6-(2-morpholin-4-ylethoxy)pyrimidin-4-yl]-1*H*-indole-5-carbonitrile;
 2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)methyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile
 20 hydrochloride;
 6-(5-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-[2-(dimethylamino)ethyl]-*N*-methylnicotinamide
 hydrochloride;
 2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile
 hydrochloride;
 25 6-(5-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-(2-pyrrolidin-1-ylethyl)pyridine-3-sulfonamide
 hydrochloride;
 2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carbonitrile;
 2-Hydroxy-3-[5-(pyrrolidin-1-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carbonitrile
 hydrochloride;
 30 2-Hydroxy-3-{5-[(4-methyl-1,4-diazepan-1-yl)methyl]pyridin-2-yl}-1*H*-indole-5-
 carbonitrile hydrochloride;

2-Hydroxy-3-{5-[(4-pyrrolidin-1-yl)piperidin-1-yl)methyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile hydrochloride;

3-(5-{[3-(Dimethylamino)pyrrolidin-1-yl)methyl]pyridin-2-yl)-2-hydroxy-1*H*-indole-5-carbonitrile;

5 2-Hydroxy-3-{5-[(4-methylpiperidin-1-yl)methyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile;

2-Hydroxy-3-{5-[(4-phenylpiperazin-1-yl)methyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile;

3-[5-(Azetidin-1-ylmethyl)pyridin-2-yl]-2-hydroxy-1*H*-indole-5-carbonitrile;

2-Hydroxy-3-[5-({4-[2-nitro-4-(trifluoromethyl)phenyl]piperazin-1-yl)methyl]pyridin-2-yl)-1*H*-indole-5-carbonitrile;

10 3-(5-{[(2-Cyanoethyl)(ethyl)amino]methyl}pyridin-2-yl)-2-hydroxy-1*H*-indole-5-carbonitrile;

3-(5-{[(4-Chlorobenzyl)(methyl)amino]methyl}pyridin-2-yl)-2-hydroxy-1*H*-indole-5-carbonitrile;

15 3-(5-{[(2-Furylmethyl)(methyl)amino]methyl}pyridin-2-yl)-2-hydroxy-1*H*-indole-5-carbonitrile;

2-Hydroxy-3-(5-{[methyl(phenyl)amino]methyl}pyridin-2-yl)-1*H*-indole-5-carbonitrile;

2-Hydroxy-3-{5-[(3-methylpiperidin-1-yl)methyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile;

3-(5-{[Cyclohexyl(methyl)amino]methyl}pyridin-2-yl)-2-hydroxy-1*H*-indole-5-carbonitrile;

20 2-Hydroxy-3-[5-(piperidin-1-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carbonitrile;

3-{5-[(4-Methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indol-2-ol hydrochloride;

6-Chloro-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indol-2-ol hydrochloride;

3-[5-(Morpholin-4-ylcarbonyl)pyridin-2-yl]-5-nitro-1*H*-indol-2-ol;

25 6-Bromo-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indol-2-ol hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-6-carbonitrile hydrochloride;

5-Bromo-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indol-2-ol hydrochloride;

5,6-Dibromo-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indol-2-ol hydrochloride;

30 3-Fluoro-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-2-oxoindoline-6-carbonitrile hydrochloride;

3-{5-[(4-Benzylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-2-hydroxy-1*H*-indole-5-carbonitrile hydrochloride;

2-Hydroxy-3-{5-[(4-(3-methylbutyl)piperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile hydrochloride;

5 2-Hydroxy-3-{5-[(4-isopropylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile hydrochloride;

3-{5-[(4-Ethylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-2-hydroxy-1*H*-indole-5-carbonitrile hydrochloride;

3-[5-(Morpholin-4-ylmethyl)pyridin-2-yl]-5-pyridin-3-yl-1*H*-indol-2-ol;

10 3-[5-(Morpholin-4-ylmethyl)pyridin-2-yl]-5-thien-2-yl-1*H*-indol-2-ol hydrochloride;

5-(2-Furyl)-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indol-2-ol hydrochloride;

3-{3-Bromo-5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-5-nitro-1*H*-indol-2-ol hydrochloride;

3-[5-(Morpholin-4-ylmethyl)pyridin-2-yl]-5-(trifluoromethyl)-1*H*-indol-2-ol

15 hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-6-carbonitrile hydrochloride;

N-[(1-Ethylpyrrolidin-2-yl)methyl]-6-(2-hydroxy-5-nitro-1*H*-indol-3-yl)nicotinamide hydrochloride;

20 6-(2-Hydroxy-5-nitro-1*H*-indol-3-yl)-*N*-(2-morpholin-4-ylethyl)nicotinamide hydrochloride;

6-(2-Hydroxy-5-nitro-1*H*-indol-3-yl)-*N*-methyl-*N*-(1-methylpiperidin-4-yl)nicotinamide hydrochloride;

5-Nitro-3-{5-[(4-pyrrolidin-1-yl)piperidin-1-yl]carbonyl}pyridin-2-yl}-1*H*-indol-2-ol

25 hydrochloride;

3-(5-{[3-(Dimethylamino)pyrrolidin-1-yl]carbonyl}pyridin-2-yl)-5-nitro-1*H*-indol-2-ol hydrochloride;

N-[2-(Dimethylamino)-1-methylethyl]-6-(2-hydroxy-5-nitro-1*H*-indol-3-yl)nicotinamide hydrochloride;

30 6-(2-Hydroxy-5-nitro-1*H*-indol-3-yl)-*N*-(2-pyrrolidin-1-ylethyl)nicotinamide fumarate;

3-{5-[(4-Methylpiperazin-1-yl)carbonyl]pyridin-2-yl}-5-nitro-1*H*-indol-2-ol fumarate;

6-(5-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-(2-pyrrolidin-1-ylethyl)nicotinamide fumarate;

6-(5-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-methyl-*N*-(2-pyrrolidin-1-ylethyl)pyridine-3-sulfonamide hydrochloride;

6-(5-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-[2-(dimethylamino)ethyl]pyridine-3-sulfonamide
5 fumarate;

6-(5-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-[2-(dimethylamino)ethyl]-*N*-ethylpyridine-3-sulfonamide fumarate;

6-(5-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-[(1-ethylpyrrolidin-2-yl)methyl]pyridine-3-sulfonamide fumarate;

10 2-Hydroxy-3-{5-[(4-methyl-1,4-diazepan-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile fumarate;

2-Hydroxy-3-{5-(morpholin-4-ylsulfonyl)pyridin-2-yl}-1*H*-indole-5-carbonitrile;

3-{5-[(4-Methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-5-(2-methyl-1,3-thiazol-4-yl)-1*H*-indol-2-ol hydrochloride;

15 3-{5-[(4-Methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-5-(1,3-thiazol-4-yl)-1*H*-indol-2-ol fumarate;

3-{5-[(4-Methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-5-(1,3-oxazol-5-yl)-1*H*-indol-2-ol;

3-[5-(Morpholin-4-ylmethyl)pyridin-2-yl]-5-nitro-1*H*-indol-2-ol hydrochloride.

20 10. A pharmaceutical formulation comprising as active ingredient a therapeutically effective amount of a compound according to any one of claims 1 to 9 in association with pharmaceutically acceptable carriers or diluents.

11. The pharmaceutical formulation according to claim 10 for use in the prevention and/or
25 treatment of conditions associated with glycogen synthase kinase-3.

12. A compound as defined in any one of claims 1 to 9 for use in therapy.

13. Use of a compound according to any one of claims 1 to 9 in the manufacture of a
30 medicament for prevention and/or treatment of conditions associated with glycogen synthase kinase-3.

14. Use of a compound according to any one of claims 1 to 9 in the manufacture of a medicament for prevention and/or treatment of dementia, Alzheimer's Disease, Parkinson's Disease, Frontotemporal dementia Parkinson's Type, Parkinson dementia complex of Guam, HIV dementia, diseases with associated neurofibrillar tangle pathologies and dementia pugilistica.

15. Use of a compound according to claim 14, wherein the disease is Alzheimer's Disease.

16. Use of a compound according to any one of claims 1 to 9 in the manufacture of a medicament for prevention and/or treatment of amyotrophic lateral sclerosis, corticobasal degeneration, Down syndrome, Huntington's Disease, postencephalatic parkinsonism, progressive supranuclear palsy, Pick's Disease, Niemann-Pick's Disease, stroke, head trauma and other chronic neurodegenerative diseases, Bipolar Disease, affective disorders, depression, schizophrenia, cognitive disorders, hair loss and contraceptive medication.

17. Use of a compound according to any one of claims 1 to 9 in the manufacture of a medicament for prevention and/or treatment of predemented states, Mild Cognitive Impairment, Age-Associated Memory Impairment, Age-Related Cognitive Decline, Cognitive Impairment No Dementia, mild cognitive decline, mild neurocognitive decline, Late-Life Forgetfulness, memory impairment and cognitive impairment, vascular dementia, dementia with Lewy bodies, Frontotemporal dementia and androgenetic alopecia.

18. A method of prevention and/or treatment of conditions associated with glycogen synthase kinase-3, comprising administering to a mammal, including man in need of such prevention and/or treatment, a therapeutically effective amount of a compound of formula Ia or Ib as defined in any one of claims 1 to 9.

19. A method of prevention and/or treatment of dementia, Alzheimer's Disease, Parkinson's Disease, Frontotemporal dementia Parkinson's Type, Parkinson dementia complex of Guam, HIV dementia, diseases with associated neurofibrillar tangle pathologies and dementia pugilistica, comprising administering to a mammal, including

man in need of such prevention and/or treatment, a therapeutically effective amount of a compound of formula **Ia** or **Ib** as defined in any one of claims 1 to 9.

20. The method according to claim 19, wherein the disease is Alzheimer's Disease.

5

21. A method of prevention and/or treatment of amyotrophic lateral sclerosis, corticobasal degeneration, Down syndrome, Huntington's Disease, postencephalatic parkinsonism, progressive supranuclear palsy, Pick's Disease, Niemann-Pick's Disease, stroke, head trauma and other chronic neurodegenerative diseases, Bipolar Disease, affective disorders, depression, schizophrenia, cognitive disorders, hair loss and contraceptive medication, comprising administering to a mammal, including man in need of such prevention and/or treatment, a therapeutically effective amount of a compound of formula **Ia** or **Ib** as defined in any one of claims 1 to 9.

10

22. A method of prevention and/or treatment of predemented states, Mild Cognitive Impairment, Age-Associated Memory Impairment, Age-Related Cognitive Decline, Cognitive Impairment No Dementia, mild cognitive decline, mild neurocognitive decline, Late-Life Forgetfulness, memory impairment and cognitive impairment, vascular dementia, dementia with Lewy bodies, Frontotemporal dementia and androgenetic alopecia, comprising administering to a mammal, including man in need of such prevention and/or treatment, a therapeutically effective amount of a compound of formula **Ia** or **Ib** as defined in any one of claims 1 to 9.

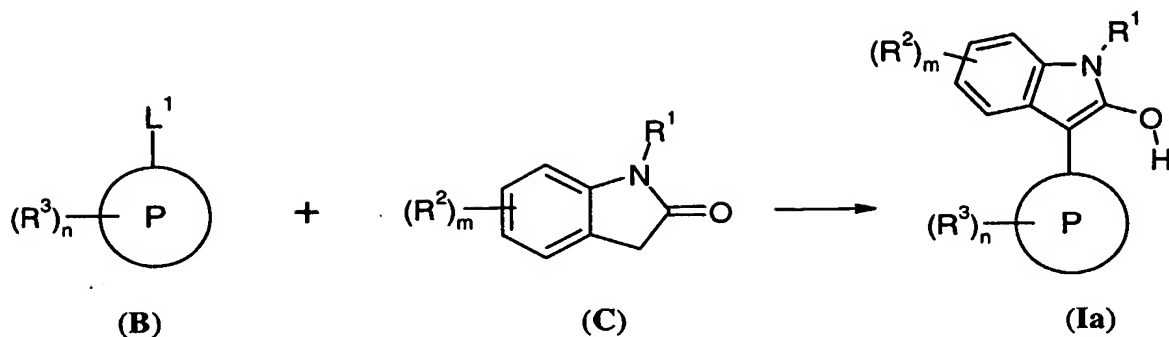
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23. A process for the preparation of a compound of formula **Ia** according to claim 1, comprising:

25

a) reacting a compound of formula **B** (**XV**, **XVIII**, **XVIIIa**, **XXI**, **XXIII**), wherein L^1 is a leaving group such as halogen, e.g. fluorine, chlorine or bromine, with a compound of formula **C** (e.g. compounds of formula **III**, **V**, **IX**, **XII**, **XIII**); wherein R^1 , R^2 and m are as defined in claim 1, to form a compound of formula **Ia**;

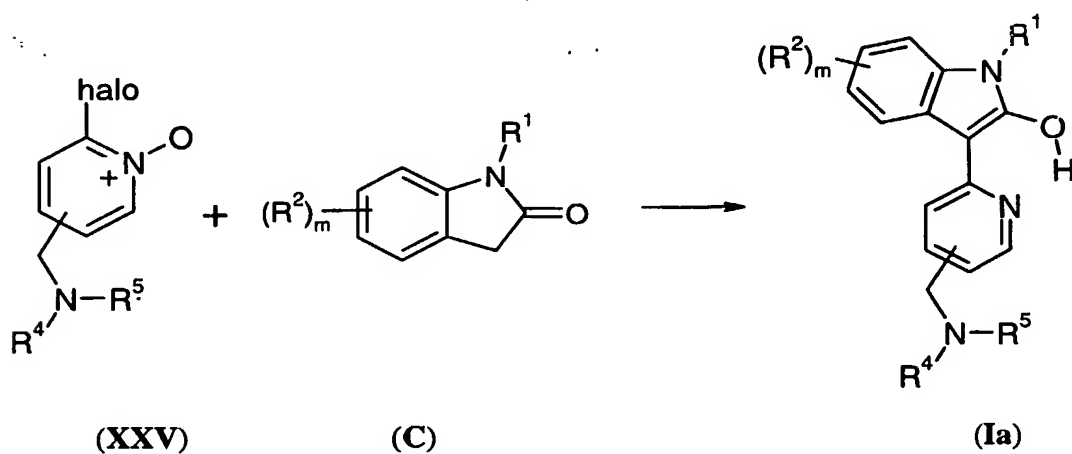
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in an appropriate solvent at a temperature between +10 °C and +150 °C;

5

b) reacting a compound of formula **XXV**, wherein halo is halogen, e.g. fluorine, chlorine or bromine, with a compound of formula **C** (e.g. compounds of formula **III**, **V**, **IX**, **XII**, **XIII**); wherein R^1 , R^2 and m are as defined in claim 1 to form a compound of formula **Ia**;

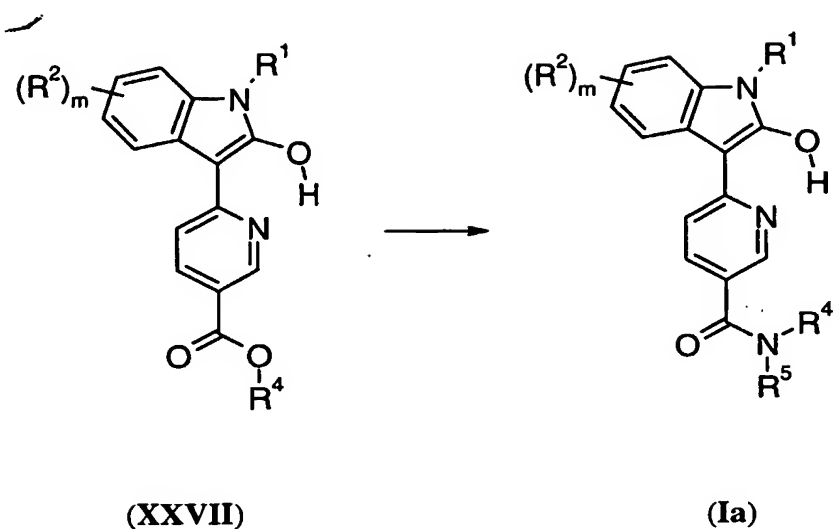


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in an appropriate solvent at a temperature between +10 °C and +150 °C;

15 c) reacting a compound of formula **XXVII**, wherein R^4 is C_{1-6} alkyl, with the appropriate amine HNR^4R^5 , to form a compound of formula **Ia**;

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5 carried out by:

i) the reaction of the compound of formula **XXVII** with the appropriate amine R^4R^5NH in a suitable solvent in the presence of a suitable reagent at a reaction temperature between 0 °C and reflux, or;

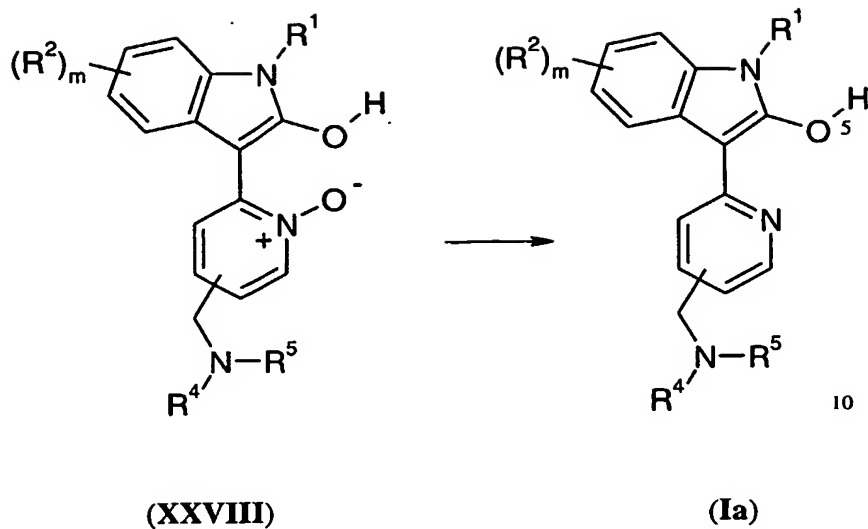
10 ii) the reaction of the compound of formula **XXVII** with the appropriate amine R^4R^5NH neat or in a suitable solvent with or without a suitable base at a temperature between -20 °C and +150 °C;

d) reduction of the *N*-oxide in the compound of formula **XXVIII** to form a compound of
15 formula **Ia**;

20

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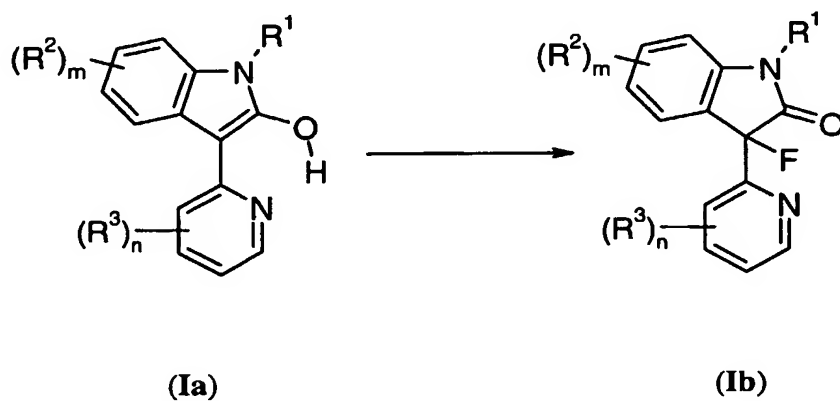
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by using a suitable reagent in a suitable solvent at a temperature between 0 °C and +100 °C.

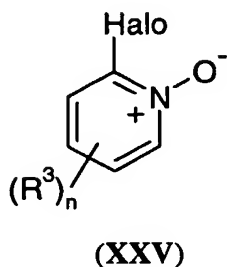
24. A process for the preparation of a compound of formula **Ib** according to claim 1, comprising:

fluorinating a compound of formula **Ia** to form a compound of formula **Ib**;



in an appropriate solvent in the presence of a suitable fluorinating reagent and a suitable base at a reaction temperature between -40 °C and +80 °C.

25. A compound according to formula XXV



wherein:

Halo is halogen; R^3 is selected from halogen, nitro, C_{1-6} alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy, trifluoromethoxy, OC_{1-6} alkylNR⁴R⁵, C_{0-6} alkylcyano, C_{0-6} alkylCONR⁴R⁵, C_{0-6} alkyl(SO₂)NR⁴R⁵, C_{0-6} alkylNR⁴R⁵ and a group X^1R^6 , wherein X^1 is a direct bond, O, CONR⁷R⁸, SO₂NR⁹R¹⁰, SO₂R¹¹ or NR¹²R¹³; R^7 , R^9 and R^{12} each independently are hydrogen or C_{1-3} alkyl; R^8 , R^{10} , R^{11} and R^{13} are C_{0-4} alkyl; R^6 is phenyl or a 5-, 6- or 7-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, which heterocyclic group may be saturated or unsaturated or said phenyl or 5-, 6- or 7-membered heterocyclic group may optionally be fused with a 5- or 6-membered saturated or unsaturated ring containing atoms selected independently from C, N, O and S and which phenyl or heterocyclic group may be substituted with one or two substituents selected from W; and R^6 is linked to R^8 , R^{10} , R^{11} and R^{13} .

26. A compound according to claim 25, wherein R^3 is C_{0-6} alkylNR⁴R⁵; and n is 1.

27. A compound which is

1-[(6-Chloropyridin-3-yl)methyl]-4-methylpiperazine;

2-Chloro-5-(morpholin-4-ylmethyl)pyridine 1-oxide;

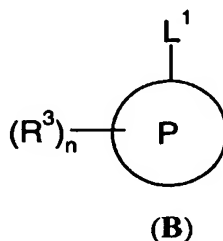
2-Chloro-5-(pyrrolidin-1-ylmethyl)pyridine 1-oxide;

1-[(6-Chloro-1-oxidopyridin-3-yl)methyl]-4-methyl-1,4-diazepane;

2-Chloro-5-[(4-pyrrolidin-1-ylpiperidin-1-yl)methyl]pyridine 1-oxide;

- 1-[(6-Chloro-1-oxidopyridin-3-yl)methyl]-*N,N*-dimethylpyrrolidin-3-amine;
 2-Chloro-5-[(4-methylpiperidin-1-yl)methyl]pyridine 1-oxide;
 1-[(6-Chloro-1-oxidopyridin-3-yl)methyl]-4-phenylpiperazine;
 1-[(6-Chloro-1-oxidopyridin-3-yl)methyl]-4-[2-nitro-4-(trifluoromethyl)phenyl]piperazine;
 3-[[[(6-Chloro-1-oxidopyridin-3-yl)methyl](ethyl)amino]propanenitrile;
N-(4-Chlorobenzyl)-*N*-[(6-chloro-1-oxidopyridin-3-yl)methyl]-*N*-methylamine;
N-[(6-Chloro-1-oxidopyridin-3-yl)methyl]-*N*-(2-furylmethyl)-*N*-methylamine;
N-[(6-Chloro-1-oxidopyridin-3-yl)methyl]-*N*-methyl-*N*-phenylamine;
 5-(Azetidin-1-ylmethyl)-2-chloropyridine 1-oxide;
 2-Chloro-5-[(3-methylpiperidin-1-yl)methyl]pyridine 1-oxide;
N-[(6-Chloro-1-oxidopyridin-3-yl)methyl]-*N*-cyclohexyl-*N*-methylamine;
 2-Chloro-5-(piperidin-1-ylmethyl)pyridine 1-oxide;

28. A compound according to formula **B** (XV, XVIII, XVIIIa XXI, XXIII)



- wherein P represents a 5- or 6-membered heteroaromatic ring containing one or two heteroatoms selected independently from N, O and S of which at least one atom is selected from nitrogen and L¹ is a leaving group such as a halogen e.g. fluorine, chlorine or bromine; wherein R³ is selected from halogen, nitro, C₁₋₆alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy, trifluoromethoxy, OC₁₋₆alkylNR⁴R⁵, C₀₋₆alkylcyano, C₀₋₆alkylCONR⁴R⁵, C₀₋₆alkyl(SO₂)NR⁴R⁵, C₀₋₆alkylNR⁴R⁵ and a group X¹R⁶, wherein X¹ is a direct bond, O, CONR⁷R⁸, SO₂NR⁹R¹⁰, SO₂R¹¹ or NR¹²R¹³; R⁷, R⁹ and R¹² each independently are hydrogen or C₁₋₃alkyl; R⁸, R¹⁰, R¹¹ and R¹³ are C₀₋₄alkyl; R⁶ is phenyl or a 5-, 6- or 7-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, which heterocyclic group may

be saturated or unsaturated or said phenyl or 5-, 6- or 7-membered heterocyclic group may optionally be fused with a 5- or 6-membered saturated or unsaturated ring containing atoms selected independently from C, N, O and S and which phenyl or heterocyclic group may be substituted with one or two substituents selected from W; and R⁶ is linked to R⁸,
 5 R¹⁰, R¹¹ and R¹³.

29. A compound according to claim 28, wherein P is a pyridine or pyrimidine ring and L¹ is a leaving group such as a halogen e.g. chlorine; wherein R³ is selected from C₀₋₆alkylCONR⁴R⁵, C₀₋₆alkyl(SO₂)NR⁴R⁵ and C₀₋₆alkylNR⁴R⁵; n is 1.

10 30. A compound which is

2-Chloro-*N*-[2-(dimethylamino)ethyl]isonicotinamide;

1-(2-Chloroisonicotinoyl)-4-methylpiperazine;

6-Chloro-*N*-[2-(dimethylamino)ethyl]-*N*-methylnicotinamide;

15 4-{2-[(6-Chloropyrimidin-4-yl)oxy]ethyl}morpholine;

1-Benzyl-4-[(6-chloropyridine-3-yl)sulfonyl]piperazine;

1-[(6-Chloropyridin-3-yl)sulfonyl]-4-(3-methylbutyl)piperazine;

1-[(6-Chloropyridin-3-yl)sulfonyl]-4-isopropylpiperazine;

1-[(6-Chloropyridin-3-yl)sulfonyl]-4-ethylpiperazine;

20 1-[(5-Bromo-6-chloropyridin-3-yl)sulfonyl]-4-methylpiperazine;

6-Chloro-*N*-methyl-*N*-(2-pyrrolidin-1-ylethyl)pyridine-3-sulfonamide;

6-Chloro-*N*-[2-(dimethylamino)ethyl]pyridine-3-sulfonamide;

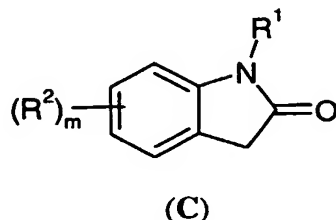
6-Chloro-*N*-[2-(dimethylamino)ethyl]-*N*-ethylpyridine-3-sulfonamide;

6-Chloro-*N*-[(1-ethylpyrrolidin-2-yl)methyl]pyridine-3-sulfonamide;

25 1-[(6-Chloropyridin-3-yl)sulfonyl]-4-methyl-1,4-diazepane;

4-[(6-Chloropyridin-3-yl)sulfonyl]morpholine;

31. A compound according to formula C (III, V, IX, XII, XIII)



5 wherein:

R^1 is hydrogen; R^2 is selected from halogen, nitro, C_{1-6} alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy, trifluoromethoxy, OC_{1-6} alkyl NR^4R^5 , C_{0-6} alkylcyano, C_{0-6} alkyl $CONR^4R^5$, C_{0-6} alkyl $(SO_2)NR^4R^5$, C_{0-6} alkyl NR^4R^5 and a group X^1R^6 , wherein X^1 is a direct bond, O, $CONR^7R^8$, $SO_2NR^9R^{10}$, SO_2R^{11} or $NR^{12}R^{13}$; R^7 , R^9 and R^{12} each independently are hydrogen or C_{1-3} alkyl; R^8 , R^{10} , R^{11} and R^{13} are C_{0-4} alkyl; R^6 is phenyl or a 5-, 6- or 7-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, which heterocyclic group may be saturated or unsaturated or said phenyl or 5-, 6- or 7-membered heterocyclic group may optionally be fused with a 5- or 6-membered saturated or unsaturated ring containing atoms selected independently from C, N, O and S and which phenyl or heterocyclic group may be substituted with one or two substituents selected from W; and R^6 is linked to R^8 , R^{10} , R^{11} and R^{13} .

32. A compound according to claim 31, wherein R^1 is hydrogen; R^2 is selected from halogen and a group X^1R^6 , wherein X^1 is a direct bond; R^6 is a 5- or 6-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S; m is 1 or 2.

33. A compound which is:

5,6-Dibromo-1,3-dihydroindol-2-one;

5-Pyridin-3-yl-1,3-dihydro-2H-indol-2-one;

5-Thien-2-yl-1,3-dihydro-2H-indol-2-one;

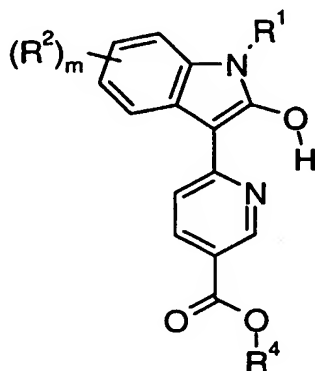
5-(2-Furyl)-1,3-dihydro-2H-indol-2-one;

5-(1,3-Oxazol-5-yl)-1,3-dihydro-2H-indol-2-one;

5-(1,3-Thiazol-4-yl)-1,3-dihydro-2H-indol-2-one;

5-(2-Methyl-1,3-thiazol-4-yl)-1,3-dihydro-2*H*-indol-2-one;

34. A compound according to formula **XXVII**



(XXVII)

wherein R^1 is hydrogen; R^2 is selected from halogen, nitro, C_{1-6} alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy, trifluoromethoxy, OC_{1-6} alkyl, NR^4R^5 , C_{0-6} alkylcyano, C_{0-6} alkylCONR⁴R⁵, C_{0-6} alkyl(SO₂)NR⁴R⁵, C_{0-6} alkylNR⁴R⁵ and a group X^1R^6 , wherein X^1 is a direct bond, O, CONR⁷R⁸, SO₂NR⁹R¹⁰, SO₂R¹¹ or NR¹²R¹³; R^7 , R^9 and R^{12} each independently are hydrogen or C_{1-3} alkyl; R^8 , R^{10} , R^{11} and R^{13} are C_{0-4} alkyl; R^6 is phenyl or a 5-, 6- or 7-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, which heterocyclic group may be saturated or unsaturated or said phenyl or 5-, 6- or 7-membered heterocyclic group may optionally be fused with a 5- or 6-membered saturated or unsaturated ring containing atoms selected independently from C, N, O and S and which phenyl or heterocyclic group may be substituted with one or two substituents selected from W; and R^6 is linked to R^8 , R^{10} , R^{11} and R^{13} .

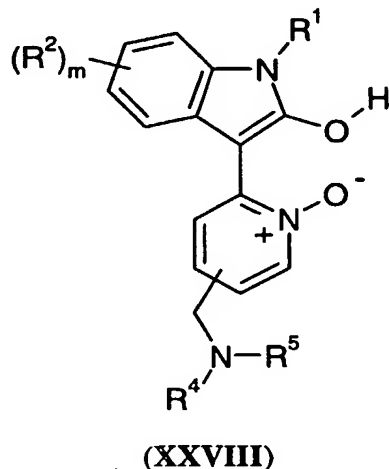
35. A compound according to claim 34, wherein R^1 is hydrogen; R^2 is selected from nitro and cyano; m is 1.

36. A compound which is

Ethyl 6-(2-hydroxy-5-nitro-1*H*-indol-3-yl)nicotinate;

Ethyl 6-(2-hydroxy-5-cyano-1*H*-indol-3-yl)nicotinate;
as a free base or a salt thereof.

37. A compound according to formula **XXVIII**



wherein R^1 is hydrogen; R^2 is selected from halogen, nitro, C_{1-6} alkyl, fluoromethyl, difluoromethyl, trifluoromethyl, fluoromethoxy, difluoromethoxy, trifluoromethoxy, OC_{1-6} alkyl, NR^4R^5 , C_{0-6} alkylcyano, C_{0-6} alkylCONR⁴R⁵, C_{0-6} alkyl(SO₂)NR⁴R⁵, C_{0-6} alkylNR⁴R⁵ and a group X^1R^6 , wherein X^1 is a direct bond, O, CONR⁷R⁸, SO₂NR⁹R¹⁰, SO₂R¹¹ or NR¹²R¹³; R^7 , R^9 and R^{12} each independently are hydrogen or C_{1-3} alkyl; R^8 , R^{10} , R^{11} and R^{13} are C_{0-4} alkyl; R^6 is phenyl or a 5-, 6- or 7-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S, which heterocyclic group may be saturated or unsaturated or said phenyl or 5-, 6- or 7-membered heterocyclic group may optionally be fused with a 5- or 6-membered saturated or unsaturated ring containing atoms selected independently from C, N, O and S and which phenyl or heterocyclic group may be substituted with one or two substituents selected from W; and R^6 is linked to R^8 , R^{10} , R^{11} and R^{13} .

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38. A compound according to claim 37, wherein R^1 is hydrogen; R^2 is a group X^1R^6 , wherein X^1 is a direct bond; R^6 is a 5- or 6-membered heterocyclic group containing one or two heteroatoms, selected independently from N, O and S; m is 1

39. A compound which is

3-[5-(Morpholin-4-ylmethyl)-1-oxidopyridin-2-yl]-5-pyridin-3-yl-1*H*-indol-2-ol;

3-[5-(Morpholin-4-ylmethyl)-1-oxidopyridin-2-yl]-5-thien-2-yl-1*H*-indol-2-ol;

5 5-(2-Furyl)-3-[5-(morpholin-4-ylmethyl)-1-oxidopyridin-2-yl]-1*H*-indol-2-ol;
as a free base or a salt thereof.

40. A compound which is

5-(Hydroxymethyl)-1,3-dihydro-2*H*-indol-2-one;

10 2-Oxoindoline-5-carbaldehyde;

5-(Chloroacetyl)-1,3-dihydro-2*H*-indol-2-one;

as a free base or a salt thereof.

41. The use of the compounds according to any one of claims 25 to 40 in the preparation of

15 a compound of formula **Ia** or **Ib** as defined in any one of claims 1 to 9.